

SOURCE INVENTORY

CATEGORIES # 931-934,969-970

OFF-ROAD MOTORCYCLES AND ALL TERRAIN VEHICLES

1999 EMISSIONS

Introduction

These categories are used to inventory the emissions from off-road motorcycles and all-terrain vehicles (ATV).

Methodologies

County by county motorcycle registration figures for base year 1999 were obtained from the Department of Motor Vehicles. This total population is assumed to be split equally between off-road motorcycles and ATVs based on information from 1990 Motorcycle Statistical Annual by Motorcycle Industry Council (MIC).

In addition about 8% of the registered on-road motorcycles and 74% of the dual purpose motorcycles are also used off-road. On-road and dual purpose motorcycles are powered by 4 stroke engines, off-road motorcycles use either 4 or 2 stroke engines.

It was assumed that 70% of off-road motorcycles are powered by 4 stroke engines. This assumption was based on the MIC's 1990 Motorcycle Statistical Annual estimates.

Emission factors for off-road motorcycles are obtained from a study conducted by Booz Allen & Hamilton Inc. entitled Off-road Mobile Equipment Emission Inventory Estimates (1992). Emission factors for on-road and dual purpose motorcycles were obtained from ARB's motor vehicle emission factor program MVEI7G.

Off-road motorcycles and ATVs are estimated to travel approximately 2400 miles per year. This based on a speed of 20 mph, 3 hours per use 40 times per year.

Most of the annual activity takes place in spring, summer and fall. Weekend activity is about twice as high as weekdays.

TRENDS

Estimate for past and future year emissions were based on motorcycle registration trends shown on page 9 of the MIC 1991 Statistical Annual Report. This shows increase in registration from 1945-1985 and downward trend from 1985 onwards. Other data from

the Report also confirms that off-road motorcycles VMT has decreased from 1985 onwards.

The above information was used to generate historic and future emissions for the Bay Area.

Control

Projected emissions include expected benefits from ARB's Re-Formulated Gasoline Phase II (beginning 1996) and Off-Road Recreational Vehicles Regulations beginning 1997. Control factors developed by ARB were used for projecting emissions.